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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,617	12/21/1999	Robert J. Munger	FS-00464	3841

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EXAMINER

CRAIG, DWIN M

ART UNIT	PAPER NUMBER
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2123

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DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/468,617

Applicant(s)

MUNGER ET AL.

Examiner

Dwin M Craig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. **Claims 1-10** have been presented for reconsideration in view of Applicant's amended claim language. **Claims 1 and 3-10** are rejected.

Response to Arguments

2. Applicant's arguments submitted on 1-26-2004 have been fully considered. The Examiner's response is as follows:

2.1 Regarding Applicants response to the Examiner's objection to Claim 3.

The Examiner withdraws the earlier objection to Claim 3.

2.2 Regarding Applicant's response to the Draftsman's requirements for formal drawings:

The Examiner acknowledges that the requirement to provide formal drawings will be held in abeyance until the formal drawings are required.

2.3 Regarding the Applicant's response to the 35 U.S.C. 103(a) rejection of independent Claim 1, specifically in regards to the Heath et al. reference:

Applicant argued:

Specifically, as repeatedly pointed out in the previous responses and Appeal Brief, the invention is directed to providing for modification of an (operational) operator system interface using a simulator and is of particular utility where operation of the system providing the operator system interface is particularly expensive and requires operator attention for operation, as in a computer system in an aircraft or other vehicle, where modification of the interface would be a major distraction to operation of the vehicle or the system.

The Examiner notes that Applicant's current Claim language does not reflect the argument put forth, as stated above, that the operator interface requires operator attention and

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that modification of the interface would be a major distraction. It is noted by the Examiner that there is support in Applicant's specification for such a limitation, (*page 2 lines 17-28*) however a reasonable interpretation of the current claim language would indicate that a simulation of an operator interface (on a personal computer) would be a reasonable interpretation on the currently claimed limitation of, *A method for programming an operator system interface with a simulator.*

Applicant argued:

Therefore, Heath et al. does not, in fact, teach providing "definitional tables for an operator interface, much less to another computing device (as admitted by the Examiner) or the modification of the definitional tables to reprogram the operator interface since the operator interface does not exist but, rather, is itself simulated.

The Examiner respectfully asserts that the *Heath et al.* reference does teach definitional tables for an operator interface, *from the previous rejection, "the simulator program performs display of a representation of the operator interface based on the definitional tables (Figures 2A, 4A Item 153), allows the user to select attributes from the definitional table (Figure 4H, Figure 8D, Col. 19 Lines 19-67, Col. 20 Lines 19-67, Col. 21-60, Col. 61 Lines 1-29, Col. 62 Lines 1-29), and modifying said definitional tables to correspond to modifying of said representation to reprogram said operator system interface (Figure 4G)."*

However, the *Heath et al.* reference does not expressly disclose modifying those tables for an operator interface on another computer. The Applicant is applying a piecemeal analysis of the Examiner's 35 U.S.C. 103(a) rejection of claim 1 and not the combination of the two references.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on

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combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

2.4 Regarding the Applicant's response to the 35 U.S.C. 103(a) rejection of independent Claim 1, specifically in regards to the Styers reference:

Applicant argued:

Styers is directed to development of the graphics of an interface and then studying the interaction and perceptibility of graphic indicia by providing an input of simulated flight conditions from a flight simulator. The input from the flight simulator is limited to flight data (e.g. attitude, heading, air speed, etc.) and is clearly not "definitional tables for an operator interface" provided from a computing device providing the interface and is input to the computing device on which the simulation is being performed in order to design an instrument display format but not to re-program an operator interface which exists on or is provided by another computing device.

The Examiner has found Applicant's arguments, in combination with the amended claim language, to be persuasive and withdraws the 35 U.S.C. 103(a) rejection of Independent Claim 1.

An updated search, motivated by Applicants amended claim language, has revealed new art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Independent **Claim 1** and dependent **Claims 3-10** are rejected under **35 U.S.C. 103(a)** as being unpatentable over **Heath et al. U.S. Patent 4,845,665** in view of **Baum et al. U.S. Patent 5,249,121**.

3.1 As regards independent **Claim 1** the *Heath et al.* reference discloses, a method for programming an operator system interface with a simulator (**Figure 1, Col. 2 Lines 45-58**), providing definitional tables for an operator system interface, wherein said tables define specific governing attributes of said operating system interface (**Figure 1, Col. 4 Lines 55-68, Col. 5-6, Col. 7 Lines 1-5**), the simulator program performs display of a representation of the operator interface based on the definitional tables (**Figures 2A, 4A Item 153**), allows the user to select attributes from the definitional table (**Figure 4H, Figure 8D, Col. 19 Lines 19-67, Col. 20 Lines 19-67, Col. 21-60, Col. 61 Lines 1-29, Col. 62 Lines 1-29**), and modifying said definitional tables to correspond to modifying of said representation to reprogram said operator system interface (**Figure 4G**).

However, the *Heath et al.* reference does not expressly disclose, *providing as an input to a computing device other than a computing device providing said operator interface*.

The *Heath et al.* reference discloses that there is a need in the art for better methods of simulating operator interfaces (**Col. 2 Lines 20-33**). An artisan of ordinary skill would have been motivated to search the related art of operator interfaces, to find a method of rapidly changing a user interface while a simulation is running.

In the related art of operator interfaces, the *Baum et al.* reference teaches, providing as an input to a computing device other than a computing device providing said operator interface. The *control console* is a computing device where input is provided (**Figure 1A, User Interface Strategy Col. 10 Lines 43-57**), with tables listing states of all the buttons on the *main control console* (**Co. 18 Lines 52-68, Col. 19 Lines 1-6**), and providing to another *other* computing device, *the remote console*, (**Figures 5-8, Col. 20 Lines 24-48**) changes can be made to the other computing device, *remote console*, from the first computing device, *main console*, (**Col. 22 Lines 40-52**), and then used for the purpose of simulation (**Col. 26 Lines 43-62 and Col. 29 Lines 26-30**).

Thus, it would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to have combined the operator interface simulation methods of the *Heath et al.* reference with the operator interface remote console configuration methods of the *Baum et al.* reference because, the console that a surgeon uses can be configured in the way that best suits that particular surgeon and therefore that surgeon will be able to concentrate his/her efforts on the medical procedure at hand as opposed to having the manipulate buttons and switches on a console that is complex to operate (**Baum et al. Col. 10 lines 43-57**).

3.2 As regards dependent **Claim 3** the *Heath et al.* reference discloses generating operational code (**Col. 2 Lines 45-59**).

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3.3 As regards dependent **Claims 4, 5, 6 and 7** the *Heath et al.* reference discloses the ability of extracting an existing operator system interface, modifying the interface and storing the changed interface by modifying the tables (**Figure 1, Col. 4 Lines 55-68, Col. 5-6, Col. 7 Lines 1-5, Figure 4H, Figure 8D, Col. 19 Lines 19-67, Col. 20 Lines 19-67, Col. 21-60, Col. 61 Lines 1-29, Col. 62 Lines 1-29**).

3.4 As regards dependent **Claim 8** the *Heath et al.* reference discloses running the simulation on a personal computer (**Col. 3 Lines 60-68, Col. 4 Lines 1-4**).

3.5 As regards dependent **Claims 9 and 10** the *Heath et al.* reference does not expressly disclose a method to demonstrate the functionality of the operator system interface or a simulation for the purpose of training.

The *Baum et al.* reference discloses demonstration of an operator system interface, which could also be used for training (**Col. 29 Lines 26-30**).

It would have been obvious, to one of ordinary skill in the art, at the time the invention was made, to have combined the simulation methods of the *Heath et al.* reference with the simulation methods of the *Baum et al.* references because the combination will make medical procedures safer (**Col. 2 Lines 15-39**).

Allowable Subject Matter

4. **Claim 2** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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4.1 It is noted by the Examiner that Applicant's specification is directed towards operator interfaces in aircraft cockpit simulators. It is noted by the Examiner that none of the prior art of record discloses the limitation of generating software specifications.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. "Advanced Crew Station Integration Cockpit" by Paul Pencikowski, IEEE 1990, discussed generic simulated cockpits for Human Engineering Factors.

5.1 This action is **NON-FINAL**.

5.2 The Examiner strongly requests the Applicant contact the Examiner in regards to any Allowable subject matter in this case.

5.3 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwain M Craig whose telephone number is 703 305-7150. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on 703 305-9704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMC


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